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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,179	07/31/2003	Joseph H. McCarthy JR.	NCI 010 P2	1436
34232	7590	12/28/2004	EXAMINER	
MATTHEW R. JENKINS, ESQ. 2310 FAR HILLS BUILDING DAYTON, OH 45419			HO, ALLEN C	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/631,179

**Applicant(s)**

MCCARTHY, JOSEPH H.

**Examiner**

Allen C. Ho

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-28, 43-62, 64 and 65 is/are rejected.
- 7) ☒ Claim(s) 1-12, 29-42 and 63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 022004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 28. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

- (1) Paragraph [0001], line 2, --now U. S. Patent No. 6,623,160 B2-- should be inserted after "2000".
- (2) Paragraph [0060], line 1, "10" should be replaced by --10'--.
- (3) Paragraph [0066], line 4, "38" should be replaced by --38'--.
- (4) Paragraph [0067], line 11, "22" should be replaced by --22'--.

Appropriate correction is required.

*Claim Objections*

3. Claims 1-12 are objected to because of the following informalities: Claim 1 recites the limitation "a second accumulator". However, there does not exist a first accumulator. Appropriate correction is required.

4. Claims 29-42 are objected to because of the following informalities: Claims 29, 33, and 36 recite the limitation "said component". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

5. Claim 42 is objected to because of the following informalities: Claim 42 recites the limitation "said second accumulator". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

6. Claim 43 is objected to because of the following informalities: Claim 43 recites the limitation "said component casing". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

7. Claim 54 is objected to because of the following informalities: Claim 54 recites the limitation "said switch". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

8. Claim 55 is objected to because of the following informalities: Claim 55 recites the limitation "the throat of said venturi". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

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9. Claim 59 is objected to because of the following informalities: Claim 59 recites the limitation "preventing step". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 13-28 and 43-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitations "an expansion tank" and "a closed expansion tank". It is unclear whether they refer to the same expansion tank or different ones. Furthermore, claim 13 recites the limitation "second conduit". There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation " a second expansion tank". It is unclear whether it refers to a different expansion tank or the same expansion tank recited in claim 13.

Claim 28 recites the limitation "said second accumulator". There is insufficient antecedent basis for this limitation in the claim.

Claim 47 recites the limitation " an expansion tank". It is unclear whether it refers to one of the accumulators recited in claim 43 or a different one.

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12. Claims 43-60 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Claim 43 fails to recite the step of accumulating the cooling fluid in the second accumulator due to pressure increase in the conduit as a result of pumping. Without this step, there could be no fluid transfer from the second accumulator to the first accumulator when pumping stops.

*Claim Rejections - 35 USC § 102*

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 43, 44, 59, and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans (U. S. Patent No. 5,868,105).

With regard to claim 43, Evans disclosed a method for cooling a component (12) situated in a system, comprising the steps of: providing a conduit (40, 64) coupled to the component; coupling the component to a pump (42) for pumping a cooling fluid through the conduit and to a heat-rejection component (54); situating a first accumulator (31) in the conduit, and a second accumulator (76) in the conduit, the first and second accumulators being arranged on the conduit to force fluid flow from the second accumulator to the first accumulator and through the conduit

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when the pump ceases pumping (the cooling fluid flows back to the first accumulator when the engine is not operating, column 14, lines 42-47).

With regard to claim 44, Evans disclosed the method as recited in claim 43, wherein the increasing step further comprises the step of: increasing an overall pressure of the fluid in the conduit (column 14, lines 21-41).

With regard to claims 59 and 60, Evans disclosed the method as recited in claim 43, further comprising the steps of: providing a closed accumulator (80) as the second accumulator; and providing a check valve (pressure-relief valve) between the pump and the closed accumulator (column 14, lines 28-35).

15. Claims 61-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerstmann (U. S. Patent No. 4,471,907).

With regard to claim 61, Gerstmann disclosed a method for cooling a heat-generating component (16) in a closed-loop hydraulic system, comprising the steps of: situating an accumulator (26) in a conduit coupled to the heat-generating component, the accumulator accumulating fluid when pressure in the conduit is above a first pressure (column 4, lines 38-58), and forcing the fluid into the conduit and to the heat-generating component when the pressure in the conduit falls below the first pressure (column 4, lines 59-68).

With regard to claim 62, Gerstmann disclosed the method as recited in claim 61, further comprises the step of: situating a venturi (20) in the conduit with a throat (20b) of the venturi held at a predetermined pressure (atmospheric pressure).

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With regard to claim 63, Gerstmann disclosed the method as recited in claim 61, further comprises the step of: situating the heat-generating component between the venturi and the accumulator.

*Claim Rejections - 35 USC § 103*

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 49 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (U. S. Patent No. 5,868,105) as applied to claim 43 above.

With regard to claims 49 and 55, Evans disclosed the method as recited in claim 43. However, Evans failed to teach the step of terminating power to the component when a flow of the fluid is less than a minimum flow rate.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to terminate power to the component when a flow of the fluid is less than a minimum flow rate, since a person would be motivated to prevent damage to the component when it is not being cooled sufficiently at a lower flow rate.

18. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerstmann (U. S. Patent No. 4,471,907) as applied to claim 61 above.



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With regard to claim 65, Gerstmann disclosed the method as recited in claim 61. However, Gerstmann failed to teach the step of situating a valve in the conduit between the accumulator and the pump.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to situate a valve in the conduit between the accumulator and the pump, since a person would be motivated to service or maintain the pump by isolating it from the rest of the conduit.

*Allowable Subject Matter*

19. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 1-12, although the prior art discloses methods comprising the steps of situating a venturi in series in a closed-loop system and providing a predetermined pressure at a throat of the venturi, it fails to teach or fairly suggest the step of providing a second accumulator and a valve to cause fluid to be passed to the heat-generating component when the pump is not pumping as claimed in claim 1.

With regard to claims 29-42, although the prior art discloses a x-ray system comprising a venturi having a predetermined pressure applied at a throat of the venturi, it fails to teach or fairly suggest that the x-ray system further comprises a closed expansion tank located between the pump and the heat-rejection component, and a valve located between the pump and the closed expansion tank as claimed in claim 29.

*Conclusion*

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Allen *et al.* (U. S. Patent No. 4,345,440) disclosed a refrigeration apparatus.
- (2) Stinson (U. S. Patent No. 4,343,155) disclosed a reservoir filling apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Allen C. Ho*

Allen C. Ho  
Patent Examiner  
Art Unit 2882

24 December 2004